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EXAMINER

COLBERT, ELLA

ART UNIT	PAPER NUMBER
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3624

22

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/547,191

Applicant(s)

NORI ET AL.

Examiner

Ella Colbert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 26-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 26-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### **DETAILED ACTION**

1. Claims 1-24 and 26-35 and newly added claims 36 and 37 are presented for examination in this communication filed 06/19/02, entered as RCE, paper no. 20.

Claims 1, 2, 5, 7, 16, 17, 19, 20, 21, 24, and 35 have been amended and claims 36 and 37 have been added.

2. Applicants' amendment to claim 7 overcomes the claim objection to claim 7 and is hereby withdrawn.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-24 and 26-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over (US 5,60,005) Hoover et al, hereafter Hoover in view of Kroenke et al (US 5,809,297), hereafter Kroenke.

With respect to claim 1, Kroenke did not teach, reading data from one or more rows of the set of one or more tables and presenting data from one or more rows as an object having an object id.

Hoover discloses, reading data from one or more rows of the set of one or more tables (col. 14, lines 66-67, col. 15, lines 1-31, col. 25, lines 16-29, fig. 8 (step 130 shows one or more tables) , col. 50, lines 42-62, fig. 23 (shows a display screen that

can be read) and generating based on database metadata an object id derived from one or more values from one or more rows, wherein the one or more values reside in one or more columns, wherein the database metadata specifies that the object id is generated based on values in the one or more columns (col. 29, lines 39-67, col. 30, lines 1-5, col. 32, lines 10-30, col. 42, lines 24-59, and fig. 8 (130a-d).

Hoover did not teach, presenting data from one or more rows as an object having an object id.

Kroenke discloses, presenting data from one or more rows as an object having an object id (col. 28, lines 44-60, col. 29, lines 22-45). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have one or more rows and to generate an object id and to combine Hoover's reading data from one or more rows of the set of one or more tables and presenting data from one or more rows as an object having an object id with Kroenke's presenting data from one or more rows as an object having an object id because such a modification would enhance their systems by having a relational database consisting of one or more two-dimensional tables that contain numerous rows and columns with each row of the rational table defining a record of data with the columns of the tables storing particular attributes of each record. The structure of the relational tables that store the data comprising the database is commonly referred to as the database schema.

With respect to claim 2, Hoover teaches, generating based on database metadata an object id includes generating an object id based on values from one or more rows of a relational table that belongs to the set of one or more tables (col. 17, lines 15-31, col. 18, lines 8-14, and col. 24, lines 9-33).

Kroenke discloses, generating based on database metadata an object id includes generating an object id based on values from one or more rows of a relational table that

belongs to the set of one or more tables (col. 29, lines 12-45). Together Hoover and Kroenke teach the claim limitations of claim 2.

With respect to claim 3, Hoover did not teach, the step of generating a reference to the object based on the object id. Kroenke discloses, the step of generating a reference to the object based on the object id (col. 29, lines 46-67 and col. 30, lines 1-5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a step of generating a reference object based on the object id and to modify in Hoover because such a modification would allow Hoover to have a unique id status for the group (reference) object based on the status id.

With respect to claim 4, Hoover and Kroenke did not teach, the step of accessing the object based on the reference generated for the object, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify in Hoover and Kroenke because such a modification would allow generation of the object based on a reference because objects have unique identifiers depending on how the users view their data.

With respect to claim 5, Hoover teaches, receiving a request to define a view (col. 4, lines 29-54), the request specifying that the object id is generated based on values in the one or more columns (col. 15, lines 3-31, col. 22, lines 4-22, and col. 29, lines 12-30). Hoover did not teach, in response to receiving the request to define the view, storing specification data that specifies one or more columns and the step of generating an object id based on values from the one or more rows includes determining how to generate the object id by inspecting the specification data. Kroenke discloses, in response to receiving the request to define the view, storing specification data that specifies one or more columns (col. 30, lines 6-19), and the step of generating based on database metadata an object id includes determining how to

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generate the object id by inspecting the specification data (col. 11, lines 50-67, col. 12, lines 1-8, and col. 29, lines 5-45). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a response to receiving the request to define the view, storing specification data that specifies one or more columns and the step of generating an object id based on values from the one or more rows includes determining how to generate the object id by inspecting the specification data and to combine Hoover's receiving a request to define a view and the request specifying that the object id is generated based on values in the one or more columns with Kroenke's response to receiving the request to define the view, storing specification data that specifies one or more columns and the step of generating based on database metadata an object id includes determining how to generate the object id by inspecting the specification data because such a combination would allow their systems to have the capability to look at the ID status of the value attribute and determine if it is unique and to identify the object with which it is associated which contains data used to locate the object.

With respect to claim 6, Hoover and Kroenke did not teach, receiving a request to define a view includes receiving a request that specifies the one or more columns as including at least one column from a relational table, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to receive a request to define a view to include receiving a request specifying one or more columns including at least one column from a relational table and to modify in Hoover and Kroenke because such a modification would allow Hoover and Kroenke's database servers to manage the relational tables defining data types and to present a view of the data in the database to a user of the object types.

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With respect to claim 7, Hoover teaches, reading a first set of data from one or more fields of a plurality of rows from the set of one or more tables (col. 6, lines 40-56 and col. 23, lines 30-33), generating a column object based on the first set of data (col. 25, lines 44-57) and presenting a second set of data from one or more tables as object oriented data by presenting the second set of data as the object that has the column object as an attribute (col. 26, lines 63-67 and col. 27, lines 1-5).

Kroenke discloses, reading a first set of data from one or more fields of a plurality of rows from a set of one or more tables (col. 28, lines 44-60 and col. 32, lines 21-27), generating a column object based on the first set of data (col. 28, lines 61-67, col. 29, lines 1-30, and figures 1, 2, and 3) and presenting a second set of data from one or more tables as an object having a column object as an attribute (col. 30, lines 6-65).

Together Hoover and Kroenke teach the claim limitations of claim 7.

With respect to claim 8, Hoover did not teach, the step of reading data from one or more rows includes reading data from one or more rows of at least one relational table.

Kroenke discloses, the step of reading data from one or more rows includes reading data from one or more rows of at least one relational table (col.1, lines 33-45). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a step for reading data from one or more rows that includes reading data from one or more rows of at least one relational table and to modify in Hoover because such a modification would allow Hoover to have relational databases that consist of one or more two-dimensional tables that contain numerous rows and columns with each row of the relational table defining a record of data and the columns of the tables storing particular attributes for each record.

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With respect to claim 9, Hoover and Kroenke did not teach, the step of generating a column object includes generating a collection object, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a step that generates a column object that includes the generation of a collection object and to modify in Hoover and Kroenke because such a modification would allow Hoover and Kroenke's system to generate an object that contains an object type which is well known in the art.

With respect to claim 10, Hoover and Kroenke did not teach, the step of generating a collection object includes generating the collection object as a list of elements belonging to a single data type, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a step that generates a collection object that includes the generation of a collection object as a list of elements belonging to a single data type and to modify in Hoover and Kroenke because such a modification would enhance Hoover and Kroenke's system to have each row as a value and each column to identify an object type such as a person or a child attribute of the object type which can be a collection data type and represent one or more children of a person.

With respect to claim 11, Hoover and Kroenke did not teach, the step of generating a collection object includes generating the collection object as a nested table, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a step that generates a collection object that includes the generation of a collection object as a nested table and to modify in Kroenke because such a modification would allow Hoover and Kroenke's system to have data types within an object table enabling the modeling of one to many relationships among the objects.



With respect to claim 12, Hoover did not teach, the step of generating a column object includes generating a column object belonging to a user specified object type. Kroenke discloses, the step of generating a column object includes generating a column object belonging to a user specified object type (col. 31, lines 39-49). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a step for generating a column object to include generating a column object belonging to a user specified object type and to modify in Hoover because such a modification would allow Hoover to create a table for the referenced object belonging to a specified object type if a table does not already exist. A relational database stores information in tables - rows and columns of data – and conducts searches using data in the specified columns of one table to find additional data in another table.

With respect to claim 13, Hoover did not teach, the step of generating a column object includes generating a column object that is a reference to another object. Kroenke discloses, the step of generating a column object includes generating a column object that is a reference to another object (col. 31, lines 50-65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a step for generating a column object to include generating a column object that is a reference to another object and to modify in Hoover because such a modification would allow Hoover to create a table for the referenced object and to have a relational database that stores information in tables - rows and columns of data – and conducts searches using data in the specified columns of one table to find additional data in another table.

With respect to claim 14, Hoover and Kroenke did not teach, the step of generating a column object includes generating a column object that is a reference to an object presented by an object view, but it would have been obvious to one having

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ordinary skill in the art at the time the invention was made to have a step that generates a column object that includes the generation of a column object that is a reference to an object presented by an object view and to modify in Hoover and Kroenke because such a modification would allow a class to be mapped to a view and to create a new view in the relational database which incorporates the definitions of one or more views.

With respect to claim 15, Hoover did not teach, the step of generating a column object includes generating a column object that is a reference to an object residing in a database.

Kroenke discloses, the step of generating a column object includes generating a column object that is a reference to an object residing in a database (col. 4, lines 55-67 and col. 5, lines 1-7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a step that generates a column object that includes the generation of a column object that is a reference to an object residing in a database and to modify in Hoover because such a modification would allow the creation of an object that represents data that the user desires to store in the database with attributes that can be accessed.

With respect to claim 16, this independent claim is rejected for the similar rationale given for claim 1.

Kroenke teaches, a processor (col. 8, lines 11-14), a memory coupled to the processor (col. 8, lines 11-14), a set of one or more tables, the set of one or more tables containing one or more rows (col. 1, lines 32-45).

With respect to claim 17, Hoover teaches, the values from the one or more rows include values from one or more rows of a relational table that belongs to the set of one or more tables (col. 7, lines 15-31, col. 8, lines 8-14, and col. 24, lines 9-33).

Kroenke discloses, the values from the one or more rows include values from one or more rows of a relational table that belongs to the set of one or more tables (col. 23, lines 21-27, col. 28, lines 44-67, and col. 29, lines 1-11). Together Hoover and Kroenke teach the claim limitations of claim 17.

With respect to claim 18 is rejected for the similar rationale given for claim 5.

With respect to claim 19, a processor (col. 35, lines 33-34 and col. 40, line 46), a memory coupled to the processor (col. 35, lines 34-36 and col. 40, lines 47-49), one or more databases (col. 1, lines 16-45), a set of one or more tables contained in the one or more databases (col. 1, lines 55-67 and col. 2, lines 1-8), the processor configured to read a first set of data from a plurality of rows from the set of one or more tables (col. 28, lines 44-60 and col. 32, lines 21-27), the processor configured to generate a column object based on the first set of data (col. 28, lines 61-67, col. 29, lines 1-30, and figures 1, 2, and 3), and a processor configured to represent a second set of data from the set of one or more tables as the object that has the column object as an attribute (col. 29, lines 14-30 and col. 30, lines 42-65).

This independent claim is also rejected for the similar rationale given for claim 7.

With respect to claim 20 this independent claim is rejected for the similar rationale given for claims 1 and 16. A computer-readable medium is well known in the art as a disk or CD ROM, etc. for containing information that can be interpreted and acted on by a computer.

With respect to claim 21 this dependent claim is rejected for the similar rationale given for claim 2.

With respect to claim 22, this dependent claim is rejected for the similar rationale given for claim 5.

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With respect to claim 23, this dependent claim is rejected for the similar rationale given for claim 6.

With respect to claim 24, this independent claim is rejected for the similar rationale given for claims 7 and 19.

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With respect to claim 26, Kroeke teaches a computer-readable medium (col. 35, lines 34-36) to perform the steps of claims 24 and 26.

This dependent claim is also rejected for the similar rationale given for claim 8.

With respect to claim 27, this dependent claim is rejected for the similar rationale given for claim 9.

With respect to claim 28, this dependent claim is rejected for the similar rationale given for claim 10.

With respect to claim 29, this dependent claim is rejected for the similar rationale given for claim 11.

With respect to claim 30, this dependent claim is rejected for the similar rationale given for claim 12.

With respect to claim 31, this dependent claim is rejected for the similar rationale given for claim 13.

With respect to claim 32, this dependent claim is rejected for the similar rationale given for claim 14.

With respect to claim 33, this dependent claim is rejected for the similar rationale given for claim 15.

With respect to claim 34, this dependent claim is rejected for the similar rationale given for claim 3.

With respect to claim 35, this dependent claim is rejected for the similar rationale given for claim 4.

With respect to claim 36, this dependent claim is rejected for the similar rationale given for claim 3.

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With respect to claim 37, this dependent claim is rejected for the similar rationale given for claim 4.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shen et al (US 5,596,746) disclosed an object model, database tables, and a relational database.

Carey et al (6,006,214) disclosed an object oriented database, nested collections of objects.

Carey et al (6,122,627) disclosed an object-oriented database and relational tables.

### ***Inquiries***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ella Colbert whose telephone number is 703-308-7064. The examiner can normally be reached on Monday-Thursday from 6:30 am -5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on 703-308-1038. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for Official communications and 703-746-5622 for Non-Official communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

A handwritten signature in black ink, appearing to read "E. Colbert", with a long horizontal stroke extending to the right.

August 10, 2002